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ENERGY AND MINERALS
DIVISION

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The Honorable Morris K. Udall
Chairman, Committee on Interior
and Insular Affairs
House of Representatives

The Honorable Manuel Lujan, Jr.
Ranking Minority Member
Committee on Interior and Insular Affairs
House of Representatives

Subject: Response to Questions Raised Concerning TMI-2
Cleanup Schedule and Cost (GAO/EMD-82-90)

This is the second of two reports you requested in your March 8, 1982, joint letter which asked for (1) an update on our January 15, 1982, report entitled "Impact of Federal R&D Funding on Three Mile Island Cleanup Costs" (EMD-82-28) and (2) answers to new questions raised in response to events that have transpired since then. This report responds to the following questions raised in your March 8 letter (see enc. I):

- Has the Three Mile Island unit two (TMI-2) cleanup schedule slipped beyond 1987 and, if so, what specific tasks are being delayed and how will the costs change?
- What is the current cost estimate for repairing TMI-1 steam generators, and what funds are available to the General Public Utilities Corporation (GPU) for this purpose?
- To what extent have funds originally intended for TMI-2 been allocated to TMI-1 steam generator work?
- What is the amount of the GPU's long-term debt that will come due between November 1982 and May 1983, and will GPU encounter difficulty in meeting these obligations?
- What is GAO's current assessment of the \$760-million TMI-2 cleanup cost estimate?



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To answer these questions, we interviewed officials from GPU, the Nuclear Regulatory Commission (NRC), and the Department of Energy (DCE), and obtained and analyzed (1) planning and cost documentation for both TMI-1 and TMI-2 projects, (2) GPU annual reports, (3) statistical summaries, (4) GPU electric rate filings, and (5) public utility commission rate orders. We also reviewed congressional testimony offered by officials representing banks lending money to GPU and by investment analysts representing several firms. We reviewed the progress of the current cleanup effort, noting the rescheduled and/or revised work tasks, and estimated the probable effect of these delays/revisions and other related factors on total cleanup costs. This review was performed in accordance with GAO's current "Standards for Audit of Governmental Organization, Programs, Activities, and Functions."

The information obtained from the above sources in responding to your specific questions is given below.

CURRENT PROJECTED STATUS
OF TMI-2 CLEANUP EFFORT

GPU has prepared several estimates of the cost and completion date for cleaning up the damage suffered at TMI-2 in 1979. Each study has taken into consideration the most current information available at the time the estimate was made and each in turn has generally escalated both cost and time elements of the project.

The most recent estimate available was completed in July 1981. This schedule reflected the progress and experience gained over the prior 18 months of activity. It also recognized that succeeding events would necessitate new planning activities as new options are developed or as previously recognized options are foreclosed. In the July estimate, however, GPU projected that the cleanup cost for TMI-2, including costs for operations and maintenance (C&M), would total over \$1 billion and could be essentially completed by the end of 1986, with some small amount of administrative cost wrap-up needed in 1987. The ability to meet that schedule was based on having sufficient financing to meet the following estimated costs (in year-of-expenditure dollars).

<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
----- (millions) -----					
\$134.9	\$196.8	\$151.8	\$167.9	\$104.6	\$3.2

Expenditures for TMI-2 in 1982 are expected to be about \$70 million (\$60 million from GPU's budget plus \$10 million from DCE's research and development (R&D) funds), or little more than one-half

of the estimated amount needed this year to meet the projected completion schedule. According to a GPU official, some of the work tasks originally scheduled for 1982 had to be slipped to 1983 because of this funding constraint. The official stated, however, that such slippages may not necessarily extend the cleanup time beyond 1987, and that if additional funding is obtained later in 1982, the rescheduled work activities can be picked up and any slippages can be minimized.

However, we believe it unlikely that additional funds will be made available to GPU during the remainder of 1982. Anticipated ratepayer contributions are currently tied to the restart of TMI-1 (an event that has been delayed from early 1982 until sometime in 1983), and it is questionable whether the terms for ratepayer contributions will be changed prior to year-end. The \$32-million annual contribution from the utility industry could be given voluntarily. But the industry has requested a congressional mandate, and it is questionable that such action will be taken this calendar year. Furthermore, our discussions on the TMI-2 cleanup budget with GPU headquarters staff raised the possibility that if no additional funds are made available to GPU for cleanup activities, 1983 expenditures may have to be cut below the 1982 \$70-million level--possibly to about \$50 million.

About \$40 million is expected to be available from insurance proceeds at the end of 1982. With no outside funding other than DOE's research and development efforts, GPU expects to use only about one-half of the remaining insurance money in 1983 to supplement the \$20 million of internally generated funds it has been allocating each year for TMI-2. This reflects GPU's policy of stretching the insurance money out as long as possible so that it will have cash resources available to fund emergency expenditures if needed.

GPU estimates that about \$30 million is needed annually to maintain the unit in a safe condition. A reduction in expenditures to \$50 million would mean that about 60 percent of the available funds would have to be used to maintain the unit, with only about 40 percent of it going to fund direct cleanup activities. If such funding reductions do become necessary, we believe that it will require a major reassessment of cleanup estimates and that cleanup completion dates will have to extend beyond 1987. GPU is currently reevaluating its July 1981 estimates, given the changed circumstances since that time. The ongoing study is not expected to be completed until late 1982, however.

According to a GPU official, the following major work tasks originally planned to start in 1982 have been delayed until 1983:

- Gross decontamination of the reactor vessel work area in the containment building.
- Start construction of containment recovery service building.
- Start construction of personnel access facility.
- Construct processed water storage system (i.e., permanent plumbing/pumps to re-use filtered water from the containment building).
- Complete reactor vessel mockup.

These work tasks are designated as prerequisites to conducting major work in the reactor area. This means that the current estimated completion date for TMI-2 cleanup depends on these tasks being completed as scheduled. As indicated earlier, some of the delay could be compensated for with additional funds in 1982 and adequate funding levels in 1983 and subsequent years.

Estimating the additional cost that is likely to result from delaying the start of certain work tasks is difficult because of the interrelated nature of much of the cleanup activity. Furthermore, some projects, such as the reactor vessel mockup, will be started if DOE provides some initial funding for engineering work, but the scheduled completion date will not be met. Our analysis of the current budget, however, shows that the estimated 1982 direct costs for the five work tasks that have been rescheduled are about \$17.5 million. On a proportional share basis, support costs for these items could add an additional \$12.8 million, for a total cost of about \$30.2 million. If we use GPU's 9-percent annual escalation rate, the rescheduling of this estimated \$30 million of work tasks to 1983 could increase total costs by another \$2.7 million.

ESTIMATED COST AND
SOURCE OF FUNDING FOR THE
TMI-1 STEAM GENERATOR REPAIR

The TMI-1 nuclear unit that has been closed down since February 1979 was expected to resume power production in early 1982. After a lengthy upgrading process, system tests of the unit were started in September 1981. Further low-pressure tests were being made in late November 1981, when leakage of radioactive water through the steam generator tubes was detected. Over the next several months, sophisticated tests were conducted on all 31,000 tubes in the two steam generators

to determine the location and extent of the leakage problem. GPU initially estimated that between 8,000 to 10,000 tubes would require some repair work to make the unit operable. Following additional testing, however, GPU engineers decided that the damage was extensive enough to require repairs to most of the 31,000 tubes as a precautionary measure against further leaks. About 500-700 tubes will be permanently plugged and made non-usable because of more extensive damage.

The current estimated cost for the repair work is \$30 million. GPU expects to obtain these funds by re-directing the TMI-1 restart activities to free up money for the steam generator repairs. Prior to the steam generator problem, GPU's 1982 budget for TMI-1 was set at \$93.6 million--\$53.6 million for O&M and \$40 million for capital costs. The current forecast is now \$99.4 million, including the additional \$30 million for steam generator repair. GPU provided the initial \$5.8-million increase to the nuclear budget from non-nuclear funds. TMI-1's O&M budget has been reduced by \$9.2 million and non-restart-related capital additions amounting to \$15 million have been delayed to provide the additional repair funds. The budget addition resulted from a general "belt-tightening" at all three operating companies. The reallocation of resources at TMI-1 results from redirected restart activities and cost savings from restrictions on (1) hiring, (2) overtime, (3) purchases of materials and supplies, (4) professional services and outside contractors, and (5) employee travel and expense. If the repair costs exceed the budget estimate, additional funds from non-TMI-1 activities may have to be re-directed into the TMI-1 budget to meet scheduled completion dates.

The realignment of the TMI-1 restart activities will delay the completion of the remaining restart modifications. As of June 30, 1982, 21 of the 111 modifications were still in process. The pace of work is being slowed down so that the completion date will more nearly coincide with the estimated date for completing the steam generator tube repairs--currently estimated to be the end of September or early October 1982.

IMPACT OF DECREASED TMI-2 BUDGET
ON AVAILABILITY OF FUNDS FOR TMI-1

The reduction in GPU's 1982 TMI-2 cleanup budget to \$60 million (initially set at \$65.8 million) has had minimal impact on increasing the availability of funds needed to pay for the steam generator tube repairs.

In early 1982, when it became apparent that TMI-1 costs would escalate and restart could be delayed to the end of the year, GPU reduced the TMI-2 budget by \$5.8 million. About \$1.8 million of this reduction was expected to result from greater efficiencies in certain cleanup activities included in the TMI-2 budget, with

the remaining \$4-million reduction applied to non-plant-specific costs that are allocated across all activities. No budget reductions were imposed on Bechtel engineering activities that are directly related to cleanup activities.

The budget reduction served primarily to decrease the estimated insurance drawdown for 1982. GPU's experience with insurance-related cleanup costs shows that for every dollar spent on cleanup, only about 70 cents is actually reimbursed by the insurance carriers as a covered expense. Consequently, the decision to reduce the TMI-2 cleanup budget by \$5.8 million resulted in reducing insurance drawdowns by about \$4 million and reducing the need for internally generated funds by about \$1.8 million. Presumably, this \$1.8 million could be applied toward TMI-1 repair costs if GPU elected to use it for that purpose.

GPU FINANCIAL COMMITMENTS THAT
CAN AFFECT ITS FUTURE VIABILITY

As of May 1982, GPU and two of its operating companies-- Metropolitan Edison (Met Ed) and Jersey Central Power & Light Company--were obligated to pay off about \$104 million in short-term borrowings by December 31, 1982, under the terms of their Revolving Credit Agreement (RCA) with 45 banks. Met Ed and Jersey Central also have \$85 million of First Mortgage Bond issues coming due by April 1, 1983. The two companies have an additional \$6.9 million due for sinking fund payments during the same time period.

It now appears that Met Ed and possibly Jersey Central will be able to pay off their RCA borrowings from internally generated funds, but the long-term debt retirement will require additional bank borrowings in 1983. It is unlikely, however, that GPU will be able to pay off its RCA obligation by December 31, 1982. If it cannot meet its commitment, GPU will have to negotiate a new agreement with the member banks to avoid defaulting on its current loan balance.

Short-term borrowing repayments

On October 1, 1981, GPU signed a new revolving credit agreement with the 45 member banks supporting the prior RCA. The original RCA had been negotiated with the banks shortly after the TMI-2 accident in March 1979. It was to provide short-term credit for working capital and a financial bridge to a more permanent solution to funding cleanup and other costs. RCA established an overall credit limit of \$412 million with individual company sublimits. RCA expired on September 30, 1981.

The banks negotiated the present agreement although they viewed GPU's financial condition with serious concern. Because

the banks saw GPU as credit worthy only through 1982--absent significant changes for the better--GPU's credit limit was reduced to \$200 million, with amounts over \$150 million available only on a vote of the banks. The agreement expires on December 31, 1982, at which time all borrowings are to be fully repaid.

As of May 1, 1982, the RCA balances outstanding were as follows:

	<u>Balance</u>
	(million)
GPU	\$ 66
Met Ed	23
Penelec	0
Jersey Central	<u>15</u>
Total	<u>\$104</u>

The favorable Pennsylvania Public Utility Commission (PaPUC) rate order in January 1982 for Met Ed provides sufficient cash resources to the company so that it can repay all of its short-term borrowings by December 31, 1982, as required. Jersey Central's ability to meet its RCA obligations by year-end depends on the New Jersey Board of Public Utilities' (NJBPU's) decision to grant the company's requested rate increase. GPU is dependent on dividend payments from the operating companies to meet its RCA obligations, and sufficient dividends will not be collected by year-end to meet its bank payment. In its original 1982 budget proposal, GPU expected that TMI-1 would return to service and be included in base rates by April 1982, thus allowing the Pennsylvania Electric Company (Penelec) and Jersey Central to pay dividends during the year. Based on this assumption, GPU expected to have its short-term debt reduced to about \$5 million by December 31, 1982. The delayed TMI-1 restart reduced the expected dividend receipts, and GPU will probably end this year still owing about \$43 million to the RCA banks. Consequently, it will have to request the bank to allow continued amortization of this outstanding debt into 1983.

Long-term debt retirement
commitment

Between November 1, 1982, and April 1, 1983, Met Ed has a \$50-million First Mortgage Bond issue maturing, and Jersey Central has a similar \$35-million bond issue coming due. According to GPU's cash flow analyses for 1982-83, Met Ed expects to have only about \$40 million available by February 1983 to retire the \$50

million of maturing bonds. The company, therefore, will need at least \$10 million in short-term borrowings to fully retire the bond issue by April 1, 1983.

Even under a favorable NJBPU rate order, Jersey Central's cash flow projection through March 1983 requires continued access to borrowed funds. The company expects to have the RCA paid off by December 31, 1982, but will almost immediately have to arrange external financing for its \$35-million bond retirement due in March 1983. GPU is currently reviewing the credit markets to assess the feasibility of refinancing the maturing bond issue. If this refinancing is not available, cash for this maturing debt will have to be provided from short-term bank borrowings.

Met Ed's and Jersey Central's need for access to short-term financing to meet their bond retirement obligations in 1983 will require a new credit agreement with the banks for 1983. GPU officials believe, however, that all 1983 borrowings would be liquidated by year-end.

Other financial commitments

In addition to the RCA and bond retirement commitments, the three operating companies will need \$112 million in April and May 1983 to pay their State taxes. Of the three companies, only Penelec is expected to have sufficient internally generated funds to meet the tax payment. Because both Met Ed and Jersey Central will likely need short-term borrowings to meet their bond retirement obligations, the State tax commitment will increase the amount needed even further.

Availability of continued short-term funds

The continued availability of short-term borrowings into 1983 is still speculative. GPU will probably be the only System entity that will not be able to meet the RCA liquidation requirement by December 31, 1982. Met Ed and Jersey Central, however, will need to resume their short-term borrowings in early 1983. The continued willingness of the lending banks to provide short-term loans after December 1982 will only be demonstrated when they are officially approached by GPU later this year.

In testimony presented to your subcommittee on April 27, 1982, two representatives of the agent banks for the RCA member-banks painted a rather pessimistic outlook for GPU's financial future. The bank representatives pointed out that GPU (1) was an enormous capital risk, (2) has no access to the capital markets, and (3) cannot continue in business for long with continued negative net income.

While recognizing PaPUC's efforts in its current rate orders to pass the cleanup cost to the taxpayer, the banks see no effort being made to rebuild the earnings power of the companies--a vital step in restoring financial health. In summary, the bank representatives stated they find it difficult to see how they can prudently lend money to the GPU System in 1983 without significant progress in the very near future in two areas--TMI-2 cleanup financing and substantial rate relief.

ADEQUACY OF AUGUST 1981
CLEANUP COST ESTIMATE

GPU's 1981 estimate of the total cost to clean up TMI-2 was \$1.034 billion. This total was based on the \$214 million spent in 1979 and 1980, the estimated 1981 cost of \$60 million, and a remaining cost of \$760 million for the 1982-87 time period. This \$760-million estimate was used by Pennsylvania's Governor Thornburgh in his July 1981 proposal that the remaining cleanup costs be shared by Federal and State governments, the utility industry, and by GPU and its ratepayers.

We now believe that if adequate financial resources can be provided to GPU so that required cleanup operations can proceed with minimal delays, the cleanup could be completed for less than the \$760 million. If funding uncertainties continue to persist, however, and money is not available when needed, cleanup activities will have to be delayed even further, and that could escalate costs beyond the current \$760-million projection.

Basis for possible
reduced cleanup costs

In our August 26, 1981, report "Greater Commitment Needed to Solve Continuing Problems at Three Mile Island" (EMD-81-106), we stated that given the data and experience gained at the time the estimate was made, it probably represented a reasonable expectation of what the total costs would likely be. We also pointed out, however, that the relatively unknown effects of the accident on the nuclear reactor's internal components and the uncertainties surrounding the need for and costs of certain cleanup activities could substantially change the final cost. In our January 15, 1982, report "Impact of Federal R&D Funding on Three Mile Island Cleanup Costs" (EMD-82-28), for example, we reported that GPU's budgeted costs for decontaminating the water in the reactor containment building was reduced by nearly \$15 million as a result of some limited R&D work by DOE.

As the cleanup work continues, even at a reduced funding level, additional data obtained and experience gained provide a basis for further cost analyses. As previously indicated, GPU recognizes the need for updating its cost estimates and expects to have a revised work schedule and cost estimate by late 1982 for future budget purposes.

In response to your concern about the adequacy of the current \$760-million estimate, we analyzed the present and projected financial resources and cleanup activities (1982-87) in relation to the work schedule and costs contained in GPU's 1981 estimate. Our analysis indicated that the total remaining cleanup cost for 1982-87--including O&M costs--could be as much as \$113 million less than the previous estimate of \$760 million. This possible reduction, however, is based on the following critical assumptions which, though optimistic, are possible.

- Beginning in 1983, sufficient funds will be available to meet each year's projected budget needs.
- Work tasks not funded in 1982 will only slip 1 year and will be funded at the same level when rescheduled.
- Escalation costs will not exceed the 9 percent used in the 1981 budget estimate.
- Core access and removal and containment decontamination costs will not exceed current budget levels.
- GPU-identified cost reductions due to cancellations or reduced work scope will occur.
- Administrative support and O&M cost reductions achieved in 1982 can be continued.

The possible reduced costs indicated by our estimated cost analysis are shown in enclosure II.

Factors that can affect estimated cost

It is important to recognize that the validity of any cost estimate depends on the reasonableness of the underlying assumptions. In a project as large and complex as the TMI-2 cleanup, estimated costs can vary significantly as work scope and scheduling changes occur due to the lack of necessary financing or to unforeseen circumstances. Consequently, if our assumptions do not hold, then our estimate will vary accordingly.

It is also important to note that relatively few cost elements account for a large portion of the total cleanup cost. Total direct cleanup costs, for example, are estimated in the 1981 budget projection at about \$293 million. Of this total, two items alone, decontamination of the containment building and recovery maintenance and systems layup costs, account for about 38 percent. Significant changes in these two items can thus cause marked increases or decreases in the total cost. Further, a large part of these costs are scheduled to occur

during the 1984-86 period, and any changes, either in amount or timing of the expenditures, will be heavily influenced by the cost escalation factor.

The estimated escalation factor for the 1982-87 period presently amounts to about \$209 million, or about 28 percent of the estimated cost of nearly \$760 million during that time period. That estimate was based on the assumption that sufficient money would be available in each year of the cleanup effort to fund the scheduled work tasks. To illustrate the effect of slipping the cleanup schedule 1 year because the necessary funds in the year of need are not available, we recomputed the escalation factor given that

- 1982 expenditures will be \$70 million;
- 1983 expenditures will be reduced to \$50 million (\$20 million in insurance money, \$20 million from GPU sources, and \$10 million from DCE's R&D effort); and
- for the period 1984-87, the following contributions 1/ to the cleanup will be available:

	<u>Calendar Year</u>			
	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	----- (millions) -----			
<u>Funding source</u>				
Insurance	\$ 20.0	\$ 0.0	\$ 0.0	\$ 0.0
GPU/ratepayers	50.0	50.0	50.0	50.0
DCE R&D	15.0	15.0	3.0	0.0
Penn. & N.J.	7.5	7.5	7.5	7.5
Industry	<u>23.4</u>	<u>27.4</u>	<u>29.7</u>	<u>30.5</u>
Total	<u>\$115.9</u>	<u>\$99.9</u>	<u>\$90.2</u>	<u>\$88.0</u>

The escalation effect of not having funds available until 1984, thereby requiring the work to slip another year, amounts to an additional \$75 million by the end of 1987.

1/Contributions are projected to come from parties identified in Pennsylvania Governor Thornburgh's proposal of July 9, 1981, for sharing TMI-2 cleanup costs.

Significance of having
cleanup funds when needed

Interestingly, even if the estimated cleanup costs were reduced by \$113 million, the current funding proposal does not quite provide a sufficient cash flow for GPU to meet the planned work task schedules. The following schedule shows GPU's 1982 planned, and the 1983-87 GPU budget adjusted for the \$113 million reduction indicated by our analysis, as compared to the potential funding from sources proposed in the Thornburgh plan.

	Calendar Year							Total
	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	
	(millions)							
Budget needs	\$70.0	\$125.9	\$167.5	\$139.2	\$117.4	\$25.4	\$ 0.0	\$645.4
Amount available	<u>70.0</u>	<u>125.9</u>	<u>109.9</u>	<u>97.2</u>	<u>91.0</u>	<u>88.9</u>	<u>38.9</u>	<u>621.8</u>
Deficiency	<u>\$00.0</u>	<u>\$00.0</u>	<u>(\$57.6)</u>	<u>(\$42.0)</u>	<u>(\$26.4)</u>	<u>\$63.5</u>	<u>\$38.9</u>	<u>(\$23.6)</u>

Although it may appear that a \$24-million deficit would not be difficult to overcome, two important factors need to be kept in mind in evaluating the effects of the suggested insufficient cleanup funding in the year of need:

- As funding deficiencies occur each year, unfunded work tasks will likely be carried forward to the succeeding year--but at an escalated rate that adds an incremental amount to the deficiency.
- Under the assumed funding scenario, the cleanup tasks could probably not be completed before 1989. Neither GPU's budget estimate nor the reduced budget resulting from our analysis includes O&M and administrative support costs beyond 1986. Any major cleanup tasks remaining after that date would undoubtedly require some level of support costs in succeeding years, and this would add an additional amount to the cleanup total.

The estimated effects of considering the above two factors on the cleanup schedule and costs are as follows:

	Calendar Year						
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
	----- (millions) -----						
Est. budget needs	\$125.9	\$167.5	\$139.2	\$117.4	<u>a/\$ 45.4</u>	<u>a/\$ 20.0</u>	<u>a/\$ 20.0</u>
Carryover (escalated)	<u>0.0</u>	<u>0.0</u>	<u>62.8</u>	<u>114.2</u>	<u>153.2</u>	<u>119.6</u>	<u>109.8</u>
Annual needs	125.9	167.5	202.0	231.6	198.6	139.6	129.8
Amount available	<u>125.9</u>	<u>109.9</u>	<u>97.2</u>	<u>91.0</u>	<u>88.9</u>	<u>38.9</u>	<u>(b)</u>
Deficiency	<u>\$ 00.0</u>	<u>\$57.6</u>	<u>\$104.8</u>	<u>\$140.6</u>	<u>\$109.7</u>	<u>\$100.7</u>	<u>(c)</u>

a/\$20 million per year for Administrative Support and O&M expenses.

b/Current funding proposal only planned for 6 years.

c/Amount not ascertainable.

It is apparent, therefore, that the current estimated funding levels over the proposed time period are not sufficient to complete the cleanup, even under the reduced cost estimates in our analysis. If the TMI-2 cleanup objectives are to be achieved within a reasonable time period and cost, it will be necessary to both increase the level of funds available to GPU and to make them available at the appropriate time.

AGENCY COMMENTS

We provided a draft copy of the report to GPU for review. GPU did not provide formal written comments but informally provided suggested changes to some of the data in the draft. We have made these changes as deemed appropriate.

GPU does not agree with our assessment that the cleanup could be completed for substantially less than the current \$760 million estimate. While they agree with about \$28 million of our line item adjustments, GPU officials disagree with our major reductions in base O&M expenses and in recovery system maintenance costs (RRS-1 schedule line 76 in enclosure II). These two adjustments in our estimate accounted for about \$66 million of the \$113.8 million decrease, and GPU considers that amount as necessary funding to complete the cleanup. Adding

this amount back into the cost estimate would increase the escalation factor from a GAO-determined \$185.4 million to \$203.4 million, or only a \$5.9-million net reduction in GPU's 1981 estimate for cost escalation.

GPU bases its determination of required O&M costs on its analysis of total O&M costs expected to be incurred during 1982. This includes its base O&M and recovery system maintenance costs as well as O&M expenses that are included as part of the total cost for specific line item work tasks. The budgeted amount for 1982 is \$20.564 million, and GPU carried this same annual amount for the projected 6-year cleanup period. The net result is projected O&M costs totalling \$123.4 million, or a \$5-million reduction in the current budget estimate of \$128.4 million.

We do not have sufficient details of GPU's O&M budget amount for 1982 to comment on its validity, but we do question GPU's assumption that O&M costs in each of the succeeding 5 years of cleanup will equate to the level of 1982 expenditures. We noted, for example, that \$10.5 million was originally budgeted for recovery system maintenance in 1982, but this was reduced to \$2.1 million in the revised 1982 budget. Similar high levels of expenditures in the same cost category are presently budgeted for later years without much evidence of need. In a similar manner, base O&M is presently budgeted at \$15 million per year, but the 1982 revised budget shows base O&M costs at \$10.9 million. Consequently, while we accept the fact that our estimate will vary from actual expenditures incurred as cleanup operations continue, we believe that given the data available to us and the assumptions used, the total remaining cleanup cost estimate of \$760 million is overstated.

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As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time, we will send copies to DOE, NRC, interested congressional committees, and others upon request.



J. Dexter Peach
Director

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March 8, 1982

Mr. Charles Bowsher
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 Washington, D.C. 20548

Dear Mr. Bowsher:

We understand that GAO investigations performed subsequent to your January 10, 1982 report to the Interior Committee entitled "Impact of Federal R&D Funding on Three Mile Island Cleanup Costs" indicate the need for significant changes in the findings and conclusions of that report.

As you know, the GAO auditors who prepared that report (EMD-82-28) understandably could not take into account three major events which bear on the answers to the questions raised in our October 29, 1981 letter requesting that you investigate this matter. Those major events were: (1) the January 7, 1982 decision by the United States Court of Appeals requiring the Nuclear Regulatory Commission to prepare an environmental assessment regarding the effects of the proposed restart of TMI-1 on the psychological health of neighboring residents and on the well-being of the surrounding communities (People Against Nuclear Energy v. U.S. NRC No. 81-1131 U.S. Ct. Apps. D.C., (Jan. 7, 1982)); (2) the order adopted on January 8, 1982 by the Pennsylvania Public Utility Commission allowing Metropolitan Edison Company and Pennsylvania Electric Company both to recover from rate payers funds to be applied to the clean up of TMI-2, and accelerate the depreciation of that facility; and, (3) the announcement on January 25, 1982 by General Public Utility Corporation that a serious corrosion problem had been discovered in the TMI Unit 1 steam generators.

In light of these developments, we request that you provide us with a statement of how the findings and conclusions of your January 10, 1982 report have been modified, as well as your overall view of the current status of the TMI-2 cleanup schedule and the availability of funds to carry-out this effort. We understand that you have this information in hand, and can provide it to us within a week; we hereby request that you do so.

In addition, we take this opportunity to raise the following new questions, and ask that GAO provide a preliminary response by March 25, and a final written report by April 12, 1982:

(1) Has the projected completion of the TMI-2 cleanup slipped from 1987 until 1988? Which specific cleanup tasks have slipped, and what is the projected cost of this schedule change? What is the likelihood that the cleanup schedule will be extended beyond 1988?

(2) Which specific cleanup tasks originally scheduled to be performed in 1982 are now likely to be carried-out in 1983 or after?

(3) To what extent have funds originally intended by GPU to be used for TMI-2 cleanup during 1982 been reallocated to TMI-1 steam generator work?

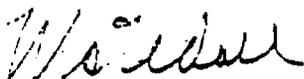
(4) What is the timing and amount of General Public Utility's long-term debt that will become due between November 1, 1982 and May 31, 1983? To what extent does GAO believe GPU will encounter difficulty in meeting these obligations?

(5) When will GPU have a firm estimate of the cost of steam generator repairs? What is the current projected total cost of steam generator repairs necessary at TMI-1? What funds are available to GPU to cover these costs?

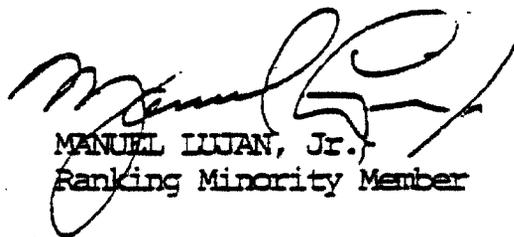
(6) To what extent is the statement in GAO's August 26, 1981 report ("Greater Commitment Needed to Solve Continuing Problems At Three Mile Island") that total estimated cleanup costs of \$760 million "appear to be reasonable for current planning purposes" an adequate assessment of the situation as it exists on March 28, 1982? What is GAO's current estimate of total TMI-2 cleanup costs?

The Interior Committee would appreciate the General Accounting Office's prompt attention to these matters. Thanks for your cooperation.

Sincerely,



MORRIS K. UDALL
Chairman



MANUEL LUJAN, Jr.
Ranking Minority Member

SCHEDULE OF GAO ADJUSTMENTS
TO GPU'S TMI-2 CLEANUP BUDGET

<u>RRS-1 schedule line</u>	<u>GPU budget 1982-87</u>	<u>GAO revision 1982-87</u>	<u>Explanatory remarks</u>
	---- (\$ in 000's) ----		
5	\$2,880	\$+1,780	Projected overexpend- iture in 1982
7, 9, 10	9,200	-1,778	Questionable whether projected 1982 carry- over is needed
12, 14	6,360	+ 612	Projected overexpend- iture in 1982
17	- 0 -	+ 962	No containment entry budget for 1982 (pro- jected actual costs)
34	100	+ 30	Projected overexpend- iture in 1982
40	5,760	-5,760	Expenditure uncertain, may not be justified
41, 42	6,080	-6,080	Work tasks cancelled
48	8,880	+ 170	Expenditures in 1982 not budgeted
49	870	+ 12	Proposed overexpendi- ture in 1982
71	10,670	- 300	Reflects SDS <u>a/</u> savings per GAC report (EMD- 82-28)
74	8,020	-3,010	Reflects SDS savings per GAC report (EMD- 82-28)
76	50,080	-39,957	Proposed expenditure level not supported
Eng./tech services	65,284	+ 4,269	Projected overexpendi- ture in 1982
Rad. control	49,620	- 3,978	No carryover of re- duced 1982 expend- itures
Health Physics	5,870	- 760	Reduced 1982 expendi- tures
Base C&M	75,000	-26,076	Proposed expenditure level not supported
Mgt./Admin.	79,683	-10,010	10% reduction due to increased efficiency
Escalation	<u>209,325</u>	<u>-23,905</u>	
Total	<u>\$759,222</u>	<u>\$-113,779</u>	(Total Revised Cost = \$645,443)

a/Submerged Demineralizer System